IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

1.   (Currently Amended) A method for allocating hosting-service resources to clients in at least one shared server, said method ~~including the steps of~~ comprising:

discovering utilization patterns of said clients; ~~and~~

monitoring said clients to discover said utilization patterns;

providing bounds specifying minimum and maximum hosting-service resources for each of said clients;

modeling dimensions for client user measures and said utilization patterns; and

allocating said resources to said clients dependent on said utilization patterns.

2.   (Currently Amended) The method according to claim 1, ~~further including the step of providing bounds specifying minimum and maximum hosting-service resources for each of said clients,~~ said allocating ~~step also~~ being dependent upon said bounds.

3.   (Canceled).

4.   (Currently Amended) The method according to claim 3, further including ~~the step of~~ packing said clients using stochastic vectors.

5.   (Currently Amended) The method according to claim 4, wherein said packing ~~step~~

09/772,246   3

utilizes at least one of ~~the processes selected from the group consisting of~~ a Roof

Avoidance process, a Minimized Variance process, a Maximized Minima process, and a

Largest Combination process.

6.   (Currently Amended) The method according to claim 1, wherein said hosting-

service resources relate to at least one hosting service ~~selected from the group consisting~~

comprising one of collaborative hosting services, commerce hosting services, and e-

business hosting services.

7.   (Currently Amended) The method according to claim 1, wherein said allocating

~~step effects~~ affects a Quality of Service (QoS) guarantee.

8.   (Original) The method according to claim 1, wherein said utilization patterns are

dependent upon access rates of one or more websites, said access rates have periodicity

on multiple time scales.

9.   (Original) The method according to claim 8, wherein two or more clients are

selected from a plurality of clients on the basis of complementarity, wherein said hosting-

service resources are allocated to said selected two or more clients as a combination.

10.   (Currently Amended) The method according to claim 9, wherein said allocating

~~step includes the step of~~ comprises selecting said two or more clients to be allocated to a

server, said two or more selected clients each having a peak load that is substantially

09/772,246   4

disjoint in time in relation to a peak load of the remaining other selected clients.

11.   (Original) The method according to claim 9, wherein said allocated hosting-service resources include resources allocated exclusively to each of said selected two or more clients and shared resources allocated to said combination for use by said selected two or more clients.

12.   (Canceled).

13.   (Original) The method according to claim 10, wherein N clients are selected and allocated to a server, N being an integer greater than or equal to two, said server being partitioned into N virtual servers, each client being exclusively allocated a corresponding one of said N virtual servers, excess capacity of said server beyond the capacity required to provide said N virtual servers is shared by said N clients.

14.   (Currently Amended) An apparatus for allocating hosting-service resources to clients in at least one shared server, said apparatus including:

means for discovering utilization patterns of said clients; ~~and~~

means for monitoring said clients to discover said utilization patterns;

means for providing bounds specifying minimum and maximum hosting-service resources for each of said clients;

means for modeling dimensions for client user measures and said utilization patterns; and

09/772,246   5

means for allocating said resources to said clients dependent on said utilization patterns.

15.   (Currently Amended) The apparatus according to claim 14, ~~further including means for providing bounds specifying minimum and maximum hosting service resources for each of said clients~~, said allocating means ~~also~~ being dependent upon said bounds.

16.   (Canceled).

17.   (Original) The apparatus according to claim 16, further including means for packing said clients using stochastic vectors.

18.   (Currently Amended) The apparatus according to claim 17, wherein said packing means utilizes at least one of ~~the processes selected from the group consisting of~~ a Roof Avoidance process, a Minimized Variance process, a Maximized Minima process, and a Largest Combination process.

19.   (Currently Amended) The apparatus according to claim 14, wherein said hosting-service resources relate to at least one hosting service ~~selected from the group consisting~~ comprising one of collaborative hosting services, commerce hosting services, and e-business hosting services.

09/772,246   6

20. (Currently Amended) The apparatus according to claim 14, wherein said allocating means ~~effects~~ affects a Quality of Service (QoS) guarantee.

21. (Original) The apparatus according to claim 14, wherein said utilization patterns are dependent upon access rates of one or more websites, said access rates have periodicity on multiple time scales.

22. (Original) The apparatus according to claim 21, wherein two or more clients are selected from a plurality of clients on the basis of complementarity, wherein said hosting-service resources are allocated to said selected two or more clients as a combination.

23. (Original) The apparatus according to claim 22, wherein said allocating means includes means for selecting said two or more clients to be allocated to a server, said two or more selected clients each having a peak load that is substantially disjoint in time in relation to a peak load of the remaining other selected clients.

24. (Original) The apparatus according to claim 22, wherein said allocated hosting-service resources include resources allocated exclusively to each of said selected two or more clients and shared resources allocated to said combination for use by said selected two or more clients.

25. (Canceled).

09/772,246
7

26.   (Original) The apparatus according to claim 23, wherein N clients are selected and allocated to a server, N being an integer greater than or equal to two, said server being partitioned into N virtual servers, each client being exclusively allocated a corresponding one of said N virtual servers, excess capacity of said server beyond the capacity required to provide said N virtual servers is shared by said N clients.

27.   (Currently Amended) A computer program product having a computer readable medium having a computer program recorded therein for allocating hosting-service resources to clients in at least one shared server, said computer program product including:

    computer program code means for discovering utilization patterns of said clients; and

    computer program code means for monitoring said clients to discover said utilization patterns;

    computer program code means for providing bounds specifying minimum and maximum hosting-service resources for each of said clients;

    computer program code means for modeling dimensions for client user measures and said utilization patterns; and

    computer program code means for allocating said resources to said clients dependent on said utilization patterns.

28.   (Currently Amended) The computer program product according to claim 27,

further including computer program code means for providing bounds specifying minimum and maximum hosting service resources for each of said clients, said computer program code means for allocating also being dependent upon said bounds.

29.   (Canceled).

30.   (Original) The computer program product according to claim 29, further including computer program code means for packing said clients using stochastic vectors.

31.   (Currently Amended) The computer program product according to claim 30, wherein said computer program code means for packing utilizes at least one of the processes selected from the group consisting of a Roof Avoidance process, a Minimized Variance process, a Maximized Minima process, and a Largest Combination process.

32.   (Currently Amended) The computer program product according to claim 27, wherein said hosting-service resources relate to at least one hosting service selected from the group consisting comprising one of collaborative hosting services, commerce hosting services, and e-business hosting services.

33.   (Currently Amended) The computer program product according to claim 27, wherein said computer program code means for allocating effects affects a Quality of Service (QoS) guarantee.

09/772,246   9

34.   (Original) The computer program product according to claim 27, wherein said utilization patterns are dependent upon access rates of one or more websites, said access rates have periodicity on multiple time scales.

35.   (Original) The computer program product according to claim 34, wherein two or more clients are selected from a plurality of clients on the basis of complementarity, wherein said hosting-service resources are allocated to said selected two or more clients as a combination.

36.   (Original) The computer program product according to claim 35, wherein said computer program code means for allocating includes computer program code means for selecting said two or more clients to be allocated to a server, said two or more selected clients each having a peak load that is substantially disjoint in time in relation to a peak load of the remaining other selected clients.

37.   (Original) The computer program product according to claim 35, wherein said allocated hosting-service resources include resources allocated exclusively to each of said selected two or more clients and shared resources allocated to said combination for use by said selected two ore more clients.

38.   (Canceled).

39.   (Original) The computer program product according to claim 36, wherein N

clients are selected and allocated to a server, N being an integer greater than or equal to two, said server being partitioned into N virtual servers, each client being exclusively allocated a corresponding one of said N virtual servers, excess capacity of said server beyond the capacity required to provide said N virtual servers is shared by said N clients.

40.   (Currently Amended) A decision support system for allocating and planning resources in hosting computing services, said decision support system including:

means for modeling utilization of resources of one or more servers by clients in response to at least one of utilization patterns of said clients and specified rules regarding quality of service; ~~and~~

means for monitoring said clients to discover said utilization patterns;

means for providing bounds specifying minimum and maximum hosting-service resources for each of said clients;

means for modeling dimensions for client user measures and said utilization patterns; and

means for determining a minimum number of servers for accommodating said clients to ensure a specified minimum quality of service.

41.   (Original) The decision support system according to claim 40, wherein said determining means utilized stochastic vector packing.

42.   (Original) The decision support system according to claim 40, wherein said system facilitates optimal management of resources in said hosting computing services.

09/772,246   11

43.   (Original) The decision support system according to claim 40, wherein said hosting computing services include hosting computing resources, computing applications, computing-related services and network bandwidth.

44.   (Original) The decision support system according to claim 40, including means for generating for a service provider a set of suggestions for optimal resource planning and allocation.

45.   (Original) The decision support system according to claim 40, wherein said system provides an optimization service for use in a business model hosting optimization applications.

46.   (Currently Amended) A decision support method for allocating and planning resources in hosting computing services, said method ~~including the steps of~~ comprising:

modeling utilization of resources of one or more servers by clients in response to at least one of utilization patterns of said clients and specified rules regarding quality of service; ~~and~~

monitoring said clients to discover said utilization patterns;

providing bounds specifying minimum and maximum hosting-service resources for each of said clients;

modeling dimensions for client user measures and said utilization patterns; and

determining a minimum number of servers for ~~accomodating~~ accommodating said

09/772,246   12

clients to ensure a specified minimum quality of service.

47. (Currently Amended) The method according to claim 46, wherein said determining ~~step~~ utilizes stochastic vector packing.

48. (Original) The method according to claim 46, wherein said method facilitates optimal management of resources in said hosting computing services.

49. (Original) The method according to claim 46, wherein said hosting computing services include hosting computing resources, computing applications, computing-related services, and network bandwidth.

50. (Currently Amended) The method according to claim 47, <u>further</u> including ~~the step of~~ generating for a service provider a set of suggestions for optimal resource planning and allocation.

51. (Original) The method according to claim 47, wherein said method provides an optimization service for use in a business model hosting optimization applications.

52. (Currently Amended) A computer program product having a computer readable medium having a computer program recorded therein for providing decision support to allocate and plan resources in hosting computing services, said computer program product including:

09/772,246

13

computer program code means for modeling utilization of resources of one or more servers by client in response to at least one of utilization patterns of said clients and specified rules regarding quality of service; and

computer program code means for monitoring said clients to discover said utilization patterns;

computer program code means for providing bounds specifying minimum and maximum hosting-service resources for each of said clients;

computer program code means for modeling dimensions for client user measures and said utilization patterns; and

computer program code means for determining a minimum number of servers for accommodating said clients to ensure a specified minimum quality of service.

53.   (Original) The computer program product according to claim 52, wherein said computer program code means for determining utilizes stochastic vector packing.

54.   (Original) The computer program product according to claim 52, wherein said computer program product facilitates optimal management of resources in said hosting computing services.

55.   (Original) The computer program product according to claim 52, wherein said hosting computing services include hosting computing resources, computing applications, computing-related services, and network bandwidth.

56.   (Currently Amended) The computer program product according to claim 52, further including computer program code means for generating for a service provider a set of suggestions for optimal resource planning and allocation.

57.   (Original) The computer program product according to claim 52, wherein said computer program product provides an optimization service for use in a business model hosting optimization applications.

09/772,246   15